IN THE CLAIMS

For the convenience of the Examiner, all pending claims of the present Application are shown below.

1. (Currently Amended) A communication system comprising:

one or more line cards each operable to receive at least one packet comprising an identifier associated with at least one of a plurality of destination elements, each line card comprising control circuitry operable to generate a control signal comprising control information;

one or more optical transmitters each associated with one of the one or more line cards and each operable to generate at a specified wavelength an optical signal comprising at least a portion of the at least one packet received by the line card associated with that optical transmitter, the optical signal further comprising at least a portion of the control information of the control signal generated by the control circuitry of the line card associated with that optical transmitter; and

a receiver associated with one of the one or more line cards and operable to receive an upstream optical signal from the plurality of destination elements;

a ~~star~~ communicating fabric operable to receive the optical signals from the one or more optical transmitters and to communicate to each of the plurality of destination elements ~~a substantially similar set of~~ at least some of the optical signals, wherein the at least a portion of the control information of the optical signal is communicated to ~~each of~~ the plurality of destination elements through the ~~star~~ communicating fabric in a same direction as the optical signals;

wherein each of the plurality of destination elements comprise a filter coupled to a destination receiver and a destination transmitter, the destination receiver operable to receive at least a fraction of the optical signals, the destination elements operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the destination transmitter, the destination elements coupled to the ~~star~~ communicating fabric, which communicates at least a fraction of the upstream optical signal to the receiver associated with the one of the line cards; ~~cards.~~

wherein at least some of the one or more optical transmitters comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source

is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Previously Presented) The communication system of Claim 1, wherein the packet comprises an Internet Protocol (IP) packet or a Transmission Control Protocol (TCP) packet.

16. (Previously Presented) The communication system of Claim 1, wherein the packet comprises a Multi-Protocol Label Switching (MPLS) or a Generalized Multi-Protocol Label Switching (GMPLS) packet.

17. (Previously Presented) The communication system of Claim 1, wherein the identifier comprises an address or a tag identifying an element external to the communication system to which information in the packet is destined.

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Previously Presented) The communication system of Claim 1, further comprising an optical-to-electrical converter coupled to the filter and operable to facilitate electronic processing of the optical signal received from the filter.

25. (Currently Amended) The communication system of Claim 1, wherein the ~~star~~ communicating fabric comprises a signal divider operable to receive a multiple wavelength signal and to communicate the multiple wavelength signal to a plurality of output paths from the ~~star~~ communicating fabric.

26. (Previously Presented) The communication system of Claim 25, wherein the signal divider comprises a cascade of 1xn optical couplers.

27. (Previously Presented) The communication system of Claim 25, wherein the signal divider comprises a power divider.

28. (Currently Amended) The communication system of Claim 25, wherein the ~~star~~ communicating fabric comprises a signal combiner operable to combine a plurality of wavelength signals into the multiple wavelength signal and to communicate the multiple wavelength signal to the signal divider.

29. (Previously Presented) The communication system of Claim 25, wherein the signal divider is coupled to an optical amplifier operable to amplify the multiple wavelength signal to at least partially compensate for a loss associated with the signal divider.

30. (Cancelled)

31. (Cancelled)

32. (Currently Amended) A line card for use in a communication system and operable to receive a packet comprising an identifier associated with a destination element, the line card comprising:

a control circuitry operable to facilitate generation of a control signal comprising control information based at least in part on the identifier;

an optical transmitter operable to generate an optical signal comprising at least a portion of the packet, the optical signal further comprising at least a portion of the control information of the control signal at a particular wavelength, the optical transmitter further operable to communicate the optical signal to a ~~star~~ communicating fabric;

an optical receiver operable to receive an upstream optical signal, wherein the at least a portion of the control information of the optical signal is communicated to the destination element through the ~~star~~ communicating fabric in a same direction as the optical signals; and

wherein the destination element comprises a filter coupled to a destination receiver and a destination transmitter, the filter operable to receive at least a portion of the optical signals from the ~~star~~ communicating fabric; the destination receiver operable to receive at least a fraction of the optical signals, the destination elements operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the destination transmitter, the destination elements coupled to the ~~star~~ communicating fabric, which communicates at least a fraction of the upstream optical signal to the receiver associated with the one of the line cards; ~~cards.~~

wherein the optical transmitter comprises a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Currently Amended) A communication system comprising:

a first plurality of line cards residing in a first location;

a second plurality of line cards residing in one or more other locations physically separate from the first location, wherein each of the line cards of the first and second pluralities of line cards comprises a filter coupled to a receiver and an optical transmitter operable to ~~generate~~ transmit at a specified wavelength an optical signal;

a ~~star~~ communicating fabric operable to receive a plurality of optical signals from the optical transmitters and to communicate ~~substantially similar~~ sets of optical signals to each of a plurality of filters, wherein ~~each~~ at least some of the optical signals comprise at least a portion of at least one packet received by one of the plurality of first line cards;

wherein the ~~star~~ communicating fabric operates as an interconnect between the different locations of line cards and wherein the communication system is operable to communicate an optical signal from an optical transmitter residing in the first location to a filter residing in the one or more other locations without converting the optical signal to an electronic form between the optical transmitter and the filter; and

wherein the first plurality of line cards further comprise a control circuitry operable to generate a control signal comprising control information, and wherein the optical transmitters associated with the first plurality of line cards communicate the control information of the control signal as at least a part of the optical signal to the second plurality of line cards, and wherein the second plurality of line cards perform a function based at least in part on the control information of the control signal received, wherein the at least a portion of the control information of the optical signal is communicated to each of the second plurality of line cards through the ~~star~~ communicating fabric in a same direction as the optical signals; ~~signals.~~

wherein the optical transmitters associated with the first plurality of line cards comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Currently Amended) A communication network comprising:

one or more line cards each operable to receive at least one packet comprising an identifier associated with at least one of a plurality of destination;

one or more control circuitry each associated with one of the line cards and operable to generate a control signal comprising control information;

one or more optical transmitters each associated with one of the line cards and each operable to generate at a specified wavelength an optical signal comprising at least a portion of the packet received by the associated the line card, the optical signal further comprising at least a portion of the control information of the control signal;

one or more optical receivers each associated with one of the line cards and operable to receive an upstream optical signal from the one or more destination elements;

a ~~star~~ communicating fabric operable to receive one or more optical signals from at least some of the one or more optical transmitters and to communicate ~~substantially similar~~ sets of optical signals to at least some of the plurality of destination elements, wherein the at least a portion of the control information of the optical signal is communicated to ~~each of~~ the at least some of the plurality of destination elements through the ~~star~~ communicating fabric in a same direction as the optical signals;

wherein each of the plurality of destination elements comprises a filter coupled to a destination receiver and a destination transmitter, the destination receiver operable to receive at least a fraction of the optical signals, the destination elements operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the destination transmitter, the destination elements coupled to the ~~star~~ communicating fabric, which communicates at least a fraction of the upstream optical signal to the receiver associated with the one of the line cards; ~~cards.~~

wherein at least some of the one or more optical transmitters comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

44. (Cancelled)

45. (Cancelled)

46. (Cancelled)

47. (Previously Presented) The communication network of Claim 43, wherein the packet comprises an Internet Protocol (IP) packet or a Transmission Control Protocol (TCP) packet.

48. (Previously Presented) The communication network of Claim 43, wherein the packet comprises a Multi-Protocol Label Switching (MPLS) or a Generalized Multi-Protocol Label Switching (GMPLS) packet.

49. (Currently Amended) A communicating core for use in a communication system, the communicating core comprising:

a ~~star~~ communicating fabric operable to receive a plurality of input optical signals, at least some optical signals comprising a packet associated with a destination element and at least a portion of control information of a control signal generated by a control circuitry, wherein the ~~star~~ communicating fabric is operable to generate a plurality of output optical signals each comprising ~~a substantially similar set of~~ at least some of the plurality of input optical signals; and

a plurality of destination elements coupled to the ~~star~~ communicating fabric, wherein the at least a portion of the control information of the optical signal is communicated to ~~each of~~ the plurality of destination elements through the ~~star~~ communicating fabric in a same direction as the optical signals,

wherein each of the plurality of destination elements comprises a filter coupled to a destination receiver and a destination transmitter, the destination receiver operable to receive at least a fraction of the optical signals, the destination elements operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the destination transmitter, the destination elements coupled to the ~~star~~ communicating fabric, which communicates at least a fraction of the upstream optical signal to the receiver associated with the one of the line cards; ~~cards.~~

wherein at least some of the plurality of input optical signals is generated from a communication transmitter comprising a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

50. (Cancelled)

51. (Previously Presented) The communicating core of Claim 49, wherein the packet comprises an Internet Protocol (IP) packet or a Transmission Control Protocol (TCP) packet.

52. (Previously Presented) The communicating core of Claim 49, wherein the packet comprises a Multi-Protocol Label Switching (MPLS) or a Generalized Multi-Protocol Label Switching (GMPLS) packet.

53. (Cancelled)

54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Cancelled)

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)

64. (Currently Amended) A communication system, comprising:

one or more line cards each operable to receive at least one Internet Protocol (IP) or Transmission Control Protocol (TCP) or Multiple Protocol Label Switching (MPLS) or Generalized Multiple Protocol Label Switching (GMPLS) packet, each line card operable to perform header or label processing to facilitate communicating the received packet toward one or more destination elements, and each line card further comprising a control circuitry capable of generating a control signal comprising control information;

one or more optical transmitters each associated with one of the line cards and each operable to generate at a particular wavelength an optical signal comprising at least a portion of the packet received by the line card associated with that optical transmitter, the optical signal further comprising at least a portion of the control information of the control signal generated by the control circuitry; and

a ~~star~~ communicating fabric operable to receive one or more optical signals from the one or more optical transmitters and to communicate a ~~substantially similar~~ set of optical signals to each of one or more destination elements, wherein the at least a portion of the control information of the optical signal is communicated to ~~each of~~ the one or more destination elements through the ~~star~~ communicating fabric in a same direction as the optical signals,

wherein each of the one or more destination elements comprises a filter coupled to a destination receiver and a destination transmitter, the destination receiver operable to receive at least a fraction of the optical signals, the destination elements operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the destination transmitter, the destination elements coupled to the ~~star~~ communicating fabric, which communicates at least a fraction of the upstream optical signal to the destination receiver; ~~receiver.~~

wherein at least some of the one or more optical transmitters comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

65. (Cancelled)

66. (Cancelled)

67. (Cancelled)

68. (Cancelled)

69. (Cancelled)

70. (Cancelled)

71. (Currently Amended) In a communication system comprising one or more line cards coupled to a ~~star~~ communicating fabric, a method of communicating optical signals, comprising:

receiving at a first line card a first packet comprising an identifier;

using a control circuitry on the first line card to determine a control signal comprising control information;

generating an optical signal at the first line card, the optical signal comprising at least a portion of the first packet received by the first line card, the optical signal further comprising at least a portion of the control information of the control signal;

communicating the first packet and the control information of the control signal to ~~a star~~ the communicating fabric in an optical format having a first wavelength;

communicating from the ~~star~~ communicating fabric to a plurality of destination elements each associated with a separate output link from the communication system the first packet and the control information of the optical signal, wherein the at least a portion of the control information of the optical signal is communicated to ~~each of~~ the plurality of destination elements through the ~~star~~ communicating fabric in a same direction as the optical signals;

wherein each of the plurality of destination elements comprises a filter coupled to a destination receiver and a destination transmitter, the destination receiver operable to receive at least a fraction of the optical signals, the destination element operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the destination transmitter, the destination elements coupled to the ~~star~~ communicating fabric, which communicates at least a fraction of the upstream optical signal to the receiver associated with the one of the line cards; ~~cards.~~

wherein the optical signal is generated by a communication transmitter comprising a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

72. (Cancelled)

73. (Cancelled)

74. (Cancelled)

75. (Cancelled)

76. (Previously Presented) The method of Claim 71, wherein the first packet comprises an Internet Protocol (IP) packet or a Transmission Control Protocol (TCP) packet and wherein the identifier comprises an address identifying the particular destination element.

77. (Previously Presented) The method of Claim 71, wherein the first packet comprises a Multi-Protocol Label Switching (MPLS) packet or a Generalized Multi-Protocol Label Switching (GMPLS) packet and wherein the identifier comprises a tag identifying the particular destination element.

78. (Cancelled)

79. (Cancelled)

80. (Cancelled)

81. (Cancelled)

82. (Cancelled)

83. (Cancelled)

84. (Cancelled)

85. (Cancelled)

86. (Cancelled)

87. (Cancelled)

88. (Cancelled)

89. (Cancelled)

90. (Cancelled)

91. (Cancelled)

92. (Cancelled)

93. (Previously Presented) The communication system of Claim 1, wherein the ~~star~~ communicating fabric comprises a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer. ~~signal divider operable to receive an optical wavelength signal and to communicate the optical wavelength signal to a plurality of output paths from the star communicating fabric.~~

94. (Currently Amended) The communication system of Claim 1, wherein the communication fabric is selected from the group consisting of fused fiber couplers, power splitters, cascaded 2x2 couplers, and ~~93, wherein the signal divider comprises a~~ cascade of 1xn optical couplers.

95. (Cancelled)

96. (Cancelled)

97. (Cancelled)

98. (Cancelled)

99. (Cancelled)

100. (Currently Amended) The line card of Claim 32, wherein the ~~star~~ communicating fabric comprises a cascade of 1xn optical couplers, a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer.

101. (Currently Amended) The communication system of Claim 38, wherein the ~~star~~ communicating fabric comprises a cascade of 1xn optical couplers, a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer.

102. (Cancelled)

103. (Cancelled)

104. (Currently Amended) The communication network of Claim 43, wherein the ~~star~~ communicating fabric comprises a cascade of 1xn optical couplers, a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer.

105. (Cancelled)

106. (Cancelled)

107. (Currently Amended) The communicating core of Claim 49, wherein the ~~star~~ communicating fabric comprises a cascade of 1xn optical couplers, a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer.

108. (Cancelled)

109. (Cancelled)

110. (Cancelled)

111. (Cancelled)

112. (Currently Amended) The communication system of Claim 64, wherein the ~~star~~ communicating fabric comprises a cascade of 1xn optical couplers, a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer.

113. (Cancelled)

114. (Cancelled)

115. (Currently Amended) The method of Claim 71, wherein the ~~star~~ communicating fabric comprises a cascade of 1xn optical couplers, a waveguide star coupler, an arrayed waveguide grating, or a wavelength division multiplexer.

116. (Cancelled)

117. (New) A communication system comprising:

one or more line cards each operable to receive at least one packet comprising an identifier associated with at least one of a plurality of destination elements, each line card comprising control circuitry operable to generate a control signal comprising control information;

one or more optical transmitters each associated with one of the one or more line cards and each operable to generate at a specified wavelength an optical signal comprising at least a portion of the at least one packet received by the line card associated with that optical transmitter, the optical signal further comprising at least a portion of the control information of the control signal generated by the control circuitry of the line card associated with that optical transmitter; and

a receiver associated with one of the one or more line cards and operable to receive an upstream optical signal from the plurality of destination elements;

a communicating fabric operable to receive the optical signals from the one or more optical transmitters and to communicate to each of the plurality of destination elements at least some of the optical signals, wherein the at least a portion of the control information of the optical signal is communicated to the plurality of destination elements through the communicating fabric in a same direction as the optical signals;

wherein each of the plurality of destination elements comprises a destination receiver and an upstream signal generator, the destination receiver operable to receive at least a fraction of the optical signals, the destination elements operable to, based at least in part on the control information of the optical signal, perform an operation to generate the upstream optical signal that is transmitted by the upstream signal generator, the destination elements coupled to the communicating fabric, which communicates at least a fraction of the upstream optical signal to the receiver associated with the one of the line cards;

wherein at least some of the one or more optical transmitters comprise a modulator operable to receive from a super-continuum source an unmodulated optical signal having a center wavelength and to modulate the received signal, wherein the super-continuum source is operable to generate using a single optical source a plurality of unmodulated optical signals each having a center wavelength, and wherein the super-continuum source comprises:

a pulse source operable to generate a plurality of optical pulses;

a continuum generator operable to broaden the spectrum of the plurality of optical pulses into an approximate spectral continuum of optical pulses; and

a signal splitter operable to generate from the approximate continuum the plurality of unmodulated optical signals each comprising a center wavelength.

118. (New) The communication system of Claim 117, wherein the pulse source is a modelocked laser.

119. (New) The communication system of Claim 117, wherein the continuum generator comprises an optical amplifier and an optical fiber.

120. (New) The communication system of Claim 119, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

121. (New) The communication system of Claim 119, wherein the optical amplifier comprises an erbium doped amplifier.

122. (New) The communication system of Claim 117, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

123. (New) The communication system of Claim 117, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

124. (New) The communication system of Claim 117, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.

125. (New) The communication system of Claim 117, wherein the communicating fabric is a star fabric.

126. (New) The communication system of Claim 125, wherein the star fabric communicates to each of the plurality of destination elements a substantially similar set of at least some of the optical signals.

127. (New) The communication system of Claim 119, wherein the second fiber is a dispersion shifted fiber.

128. (New) The communication system of Claim 1, wherein the pulse source is a modelocked laser.

129. (New) The communication system of Claim 1, wherein the continuum generator comprises an optical amplifier and an optical fiber.

130. (New) The communication system of Claim 129, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

131. (New) The communication system of Claim 129, wherein the optical amplifier comprises an erbium doped amplifier.

132. (New) The communication system of Claim 1, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

133. (New) The communication system of Claim 1, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

134. (New) The communication system of Claim 1, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.

135. (New) The communication system of Claim 1, wherein the communicating fabric is a star fabric.

136. (New) The communication system of Claim 135, wherein the star fabric communicates to each of the plurality of destination elements a substantially similar set of at least some of the optical signals.

137. (New) The communication system of Claim 130, wherein the second fiber is a dispersion shifted fiber.

138. (New) The line card of Claim 32, wherein the continuum generator comprises an optical amplifier and an optical fiber.

139. (New) The line card of Claim 138, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

140. (New) The line card of Claim 138, wherein the optical amplifier comprises an erbium doped amplifier.

141. (New) The line card of Claim 32, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

142. (New) The line card of Claim 32, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

143. (New) The line card of Claim 32, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.

144. (New) The communication system of Claim 38, wherein the continuum generator comprises an optical amplifier and an optical fiber.

145. (New) The communication system of Claim 144, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

146. (New) The communication system of Claim 144, wherein the optical amplifier comprises an erbium doped amplifier.

147. (New) The communication system of Claim 38, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

148. (New) The communication system of Claim 38, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

149. (New) The communication system of Claim 38, wherein the optical transmitter associated with the second plurality of line cards comprises another modulator.

150. (New) The communication network of Claim 43, wherein the continuum generator comprises an optical amplifier and an optical fiber.

151. (New) The communication network of Claim 150, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

152. (New) The communication network of Claim 150, wherein the optical amplifier comprises an erbium doped amplifier.

153. (New) The communication network of Claim 43, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

154. (New) The communication network of Claim 43, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

155. (New) The communication network of Claim 43, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.

156. (New) The communication core of Claim 49, wherein the continuum generator comprises an optical amplifier and an optical fiber.

157. (New) The communication core of Claim 156, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

158. (New) The communication core of Claim 156, wherein the optical amplifier comprises an erbium doped amplifier.

159. (New) The communication core of Claim 49, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

160. (New) The communication core of Claim 49, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

161. (New) The communication core of Claim 49, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.

162. (New) The communication system of Claim 64, wherein the continuum generator comprises an optical amplifier and an optical fiber.

163. (New) The communication system of Claim 162, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

164. (New) The communication system of Claim 162, wherein the optical amplifier comprises an erbium doped amplifier.

165. (New) The communication system of Claim 64, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

166. (New) The communication system of Claim 64, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

167. (New) The communication system of Claim 64, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.

168. (New) The method of Claim 71, wherein the pulse source is a modelocked laser.

169. (New) The method of Claim 71, wherein the continuum generator comprises an optical amplifier and an optical fiber.

170. (New) The method of Claim 169, wherein the optical fiber comprises a two stage system comprising a standard fiber followed by a second fiber.

171. (New) The method of Claim 169, wherein the optical amplifier comprises an erbium doped amplifier.

172. (New) The method of Claim 71, further comprising a pulse rate multiplexer coupled to the super-continuum source, wherein the pulse rate multiplexer operates to multiplex pulses to increase the bit rate of the source.

173. (New) The method of Claim 71, wherein the signal splitter is selected from the group consisting of a passive wavelength division multiplexer and a power splitter followed by fixed wavelength filters.

174. (New) The method of Claim 71, wherein the destination transmitter comprises another modulator to encode information onto the upstream optical signal.